**Instruction to run code**

This repository contains the code for detecting stress using speech signals with machine learning and deep learning techniques.

**Introduction**

Stress detection using speech involves analyzing voice signals to identify stress levels. This project leverages machine learning (ML) and deep learning (DL) models to classify stress from audio features.

**Features**

1. Extract features from speech signals.
2. Train ML and DL models to detect stress.
3. Evaluate model performance.
4. Visualize results.

**Requirements**

- Python 3.8+

- TensorFlow 2.x

- Keras

- scikit-learn

- pandas

- numpy

- librosa

- matplotlib

**Installation**

1. Clone the repository

2. Create and activate a virtual environment

3. Install the required packages:

**Dataset**

1. Download the speech dataset you are using for this project. Ensure it is organized in a suitable format (e.g., audio files in a directory with corresponding labels).

2. Place the dataset in a directory named `data` in the project root.

**Usage**

1. Extract features from the dataset

2. Train the ML and DL models

3. Evaluate the trained models

4. Visualize the results

**Training**

To train the models, run the following command:

```bash

python train.py --feature\_file features.csv --model\_dir models

```

This script will split the data into training and testing sets, train the models, and save them in the `models` directory.

Evaluation

This script will load the models and evaluate them on the test set, printing performance metrics.